

DETAILED ACTION

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Mathew M. Gaffney, Reg. 46,717 on Wednesday, December 15, 2010.

The application has been amended as follows:

1.(Amended) An apparatus for routing at least one flow of packets over a network comprising:

(a) a transceiver arranged to receive and forward each packet in a flow of packets; and

(b) a processor, coupled to the transceiver, that is arranged to perform actions, including:

(i) if at least one received packet in the flow of packets is associated with a traffic manager, forwarding the flow of packets to the associated traffic manager; and

(ii) if each received packet in the flow of packets is unassociated with the traffic manager, performing actions, including:

(A) selecting another traffic manager; ~~and~~

(B) associating ~~the other~~ said another traffic manager with the flow of packets, wherein each received packet in the flow of packets is forwarded to ~~the other~~ said another traffic manager; and

~~22. (Cancelled) The system of claim 17, wherein selecting another traffic manager further comprises basing the selection in part on at least one of a round trip time (RTT), a least connections, a packet completion rate, a quality of service, a traffic management device packet rate, a topology, a global availability, a hop metric, a hash of an address in a received packet, a static ratio, a dynamic ratio, a source IP address, a destination IP address, a port number, and a round robin mechanism.~~

2.(Original) The apparatus of Claim 1, further comprising a memory that is configured to store a connection key associated with at least one received packet in the flow of packets.

3.(Original) The apparatus of claim 1, wherein the processor is arranged to perform actions, further comprising, if at least one received packet in the flow of packets includes at least one connection key associated with at least one traffic

manager, storing each connection key and its association with each traffic manager.

4.(Original) The apparatus of claim 3, wherein the connection key further comprises at least one of a source IP address, a destination IP address, a source port, virtual local area network (VLAN) identifier, and a destination port.

5. (Amended) The apparatus of claim 1, wherein the processor is arranged to perform actions, further comprising:

- (a) receiving a signal from the traffic manager; and
- (b) if the signal indicates a memorize instruction, storing the connection key and an association with ~~the other~~ said another traffic manager.

6.(Amended) The apparatus of claim 1, wherein the processor is arranged to perform actions, further comprising:

- (a) receiving a signal from the traffic manager; and
- (b) if the signal indicates a forget instruction, deleting the association between the connection key and ~~the other~~ said another traffic manager.

7.(Original) The apparatus of claim 1, wherein the processor is arranged to perform actions, further comprising, aging at least one connection key.

8.(Amended) The apparatus of claim 1, further comprising associating ~~the~~ other said another traffic manager with the connection key, and mirroring the connection key to another processor.

9.(Original) The apparatus of claim 1, wherein the processor includes at least one of a microprocessor, field-programmable gate arrays (FPGA), an application specific integrated chip, digital logic, and software.

10. (Original) The apparatus of claim 1, wherein the apparatus is arranged to operate as at least one of a distributor, a router, a bridge, a firewall, and a gateway.

11. (Original) The apparatus of claim 1, wherein each received packet includes at least one of a media access control address, a virtual local area network (VLAN) identifier, a transmission control protocol (TCP) port number, a user datagram protocol (UDP) port number, an Internet protocol (IP) address, a physical port identifier, and a physical port.

12. (Amended) A method for routing at least one flow of packets over a network comprising:

(a) if at least one received packet in the flow of packets is associated with a traffic manager, forwarding the flow of packets to the associated traffic manager;
and

(b) if each received packet in the flow of packets is unassociated with the traffic manager, performing further actions, including:

(i) selecting another traffic manager; ~~and~~

(ii) associating ~~the other~~ said another traffic manager with the flow of packets, wherein each received packet in the flow of packets is forwarded to ~~the other~~ said another traffic manager; and

~~22. (Cancelled) The system of claim 17, wherein selecting another traffic manager further comprises basing the selection in part on at least one of a round trip time (RTT), a least connections, a packet completion rate, a quality of service, a traffic management device packet rate, a topology, a global availability, a hop metric, a hash of an address in a received packet, a static ratio, a dynamic ratio, a source IP address, a destination IP address, a port number, and a round robin mechanism.~~

13. (Original) The method of claim 12, further comprising sending a second signal to a second distributor, in response to detecting a communication protocol signal in packet seen by a first distributor, wherein the second signal instructs the second distributor to age a second association between a second flow of packets and the traffic manager.

14. (Original) The method of claim 12, further comprising, in response to detecting a TCP FIN signal, aging the association between the flow of packets and the traffic manager.

15. (Amended) The method of claim 12, wherein associating ~~the other~~ said another traffic manager with the flow of packets further comprises storing a connection key and an identifier associated with ~~the other~~ said another traffic manager.

16. (Amended) The method of claim 12, wherein associating ~~the other~~ said another traffic manager with the flow of packets further comprises:

- (a) receiving the flow of packets from ~~the other~~ said another traffic manager;
- (b) determining whether a signal is associated with the received flow of packets; and
- (c) if the signal indicates a memorize action, storing a connection key and an identifier associated with ~~the other~~ said another traffic manager.

17. (Amended) A system for routing at least one flow of packets over a network, comprising:

- (a) a plurality of servers; and
 - b) a distributor that is in communication with the plurality of servers,
- wherein the distributor is arranged to perform actions, including:

(i) if a connection key in at least one received packet in the flow of packets is associated with a traffic manager, forwarding the flow of packets to the traffic manager associated with the connection key; and

(i) if the connection key in each received packet in the flow of packets is unassociated with the traffic manager, performing actions, including:

(A) selecting another traffic manager; ~~and~~

(B) associating ~~the other~~ said another traffic manager with the connection key, wherein each received packet in the flow of packets is forwarded to ~~the other~~ said another traffic manager; and

~~22. (Cancelled) The system of claim 17, wherein selecting another traffic manager further comprises basing the selection in part on at least one of a round trip time (RTT), a least connections, a packet completion rate, a quality of service, a traffic management device packet rate, a topology, a global availability, a hop metric, a hash of an address in a received packet, a static ratio, a dynamic ratio, a source IP address, a destination IP address, a port number, and a round robin mechanism.~~

18. (Original) The system of Claim 17, wherein the distributor is arranged to perform further actions, including:

(a) sending a signal to a second distributor, wherein the signal is indicative of the association between the flow of packets and the traffic manager; and

(b) in response to detecting a communication protocol signal in another received packet in the flow of packets, sending a second signal to the second distributor, wherein the second signal is indicative of modifying the association between the flow of packets and the traffic manager.

19. (Original) The system of claim 18, wherein modifying the association further comprises at least one of aging and deleting the association between the flow of packets and the traffic manager.

20. (Original) The system of claim 17, further comprising a plurality of traffic managers arranged to direct a flow of packets to at least one of the plurality of servers.

21. (Original) The system of claim 17, further comprising a plurality of traffic managers coupled to the transceiver, each traffic manager in the plurality of traffic managers is configured to perform actions, including:

(a) receiving each packet in the forwarded flow of packets;

(b) including a signal with each received packet, wherein the signal indicates at least one of a memorize instruction, and a forget instruction; and

(c) forwarding each received packet including the signal to another processor.

Claims 22-56 (Canceled)

57. (Previously presented) The apparatus of Claim 1, wherein the processor is arranged to perform further action, including:

receiving, from the traffic manager associated with the flow of packets, a first partial server-side connection key corresponding to another flow of packets, wherein the first partial server-side connection key includes known fields and unknown fields;

learning of a second partial server-side connection key which includes fields corresponding to unknown fields of the first partial server-side connection key; and storing an association between the second partial server-side connection key and the traffic manager associated with the flow of packets for use in forwarding packets of said another flow of packets.

58. (Previously presented) The apparatus of Claim 57, wherein the processor is arranged to learn of the second partial server-side connection key by receiving packets containing the unknown fields of the first partial server-side connection key, and generating the second partial server-side connection key from the packets containing the unknown fields.

59. (Previously presented) The apparatus of Claim 57, wherein the processor is arranged to learn of the second partial server-side connection key by receiving packets from said another flow of packets and receiving the second partial server-side connection key from the traffic manager associated with the flow of packets.

60. (Amended) An apparatus for routing at least one flow of packets over a network comprising:

(a) a transceiver arranged to receive and forward each packet in a flow of packets; and

(b) a processor, coupled to the transceiver, that is arranged to perform actions, including:

(i) each time a flow of packets is received in which at least one packet in the flow of packet is associated with a traffic manager, forwarding the flow of packets to the associated traffic manager; and

(ii) each time a flow of packets is received in which each received packet in the flow of packets is unassociated with the traffic manager, performing actions, including:

(A) selecting another traffic manager; ~~and~~

(B) associating ~~the other~~ said another traffic manager with the flow of packets, wherein each received packet in the flow of packets is forwarded to ~~the other~~ said another traffic manager; and

~~22. (Cancelled) The system of claim 17, wherein selecting another traffic manager further comprises basing the selection in part on at least one of a round trip time (RTT), a least connections, a packet completion rate, a quality of service, a traffic management device packet rate, a topology, a global availability, a hop metric, a hash of an address in a received packet, a static ratio, a dynamic ratio, a source IP address, a destination IP address, a port number, and a round robin mechanism.~~

61. (Previously presented) The apparatus of claim 60, wherein the processor is arranged to perform actions, further comprising, each time a flow of packets is received in which at least one packet in the flow of packet is associated with a traffic manager, storing each connection key and its association with each traffic manager.

62. (Amended) The apparatus of claim 60, wherein the processor is arranged to perform actions, further comprising:

receiving a signal from the traffic manager; and

upon receiving a signal indicating a memorize instruction, storing the connection key and an association with ~~the other~~ said another traffic manager.

63. (Previously presented) The apparatus of claim 60, wherein the processor is arranged to perform actions, further comprising, aging at least one connection key.

64. (Amended) A manufacture including a non-transitory processor-readable medium having processor-executable code stored therein, which when executed by one or more processors, enables actions for routing at least one flow of packets over a network, comprising:

each time a flow of packets is received in which at least one packet in the flow of packet is associated with a traffic manager, forwarding the flow of packets to the associated traffic manager; and

each time a flow of packets is received in which each received packet in the flow of packets is unassociated with the traffic manager, performing actions, including:

selecting another traffic manager; ~~and~~
associating ~~the other~~ said another traffic manager with the flow of packets, wherein each received packet in the flow of packets is forwarded to ~~the other~~ said another traffic manager; and

~~22. (Cancelled) The system of claim 17, wherein selecting another traffic manager further comprises basing the selection in part on at least one of a round trip time (RTT), a least connections, a packet completion rate, a quality of service, a traffic management device packet rate, a topology, a global availability, a hop metric, a hash of an address in a received packet, a static ratio, a dynamic ratio, a source IP address, a destination IP address, a port number, and a round robin mechanism.~~

65. (Previously presented) The manufacture of Claim 64, the actions further comprising sending a second signal to a second distributor, in response to detecting a communication protocol signal in packet seen by a first distributor, wherein the second signal instructs the second distributor to age a second association between a second flow of packets and the traffic manager.

66. (Previously presented) The manufacture of Claim 64, the actions further comprising, in response to detecting a TCP FIN signal, aging the association between the flow of packets and the traffic manager.

67. (Amended) The manufacture of Claim 64, wherein the processor-executable code, when executed by one or more processors, performs the action of associating ~~the other~~ said another traffic manager with the flow of packets such that the action of associating ~~the other~~ said another traffic manager with the flow of

packets includes storing a connection key and an identifier associated with ~~the~~
~~other~~ said another traffic manager.

68. (Amended) The manufacture of Claim 64, wherein the processor-executable code, when executed by one or more processors, performs the action of associating ~~the other~~ said another traffic manager with the flow of packets such that the action of associating ~~the other~~ said another traffic manager with the flow of packets includes:

receiving the flow of packets from ~~the other~~ said another traffic manager;
determining whether a signal is associated with the received flow of packets; and
upon receiving a signal indicating a memorize instruction, storing the connection key and an association with ~~the other~~ said another traffic manager.

69. (Amended) A method for routing at least one flow of packets over a network comprising:

each time a flow of packets is received in which at least one packet in the flow of packet is associated with a traffic manager, forwarding the flow of packets to the associated traffic manager; and

each time a flow & packets is received in which each received packet in the flow of packets is unassociated with the traffic manager, performing actions, including:

selecting another traffic manager; and
associating ~~the other~~ said another traffic manager with the flow of packets,
wherein each received packet in the flow of packets is forwarded to ~~the other~~ said
another traffic manager; and

~~22. (Cancelled) The system of claim 17, wherein selecting another traffic~~
~~manager further comprises basing the selection in part on at least one of a round~~
~~trip time (RTT), a least connections, a packet completion rate, a quality of service,~~
~~a traffic management device packet rate, a topology, a global availability, a hop~~
~~metric, a hash of an address in a received packet, a static ratio, a dynamic ratio, a~~
~~source IP address, a destination IP address, a port number, and a round robin~~
~~mechanism.~~

70. (Previously presented) The method of claim 69, further comprising
sending a second signal to a second distributor, in response to detecting a
communication protocol signal in packet seen by a first distributor, wherein the
second signal instructs the second distributor to age a second association between a
second flow of packets and the traffic manager.

71. (Previously presented) The method of claim 69, further comprising, in
response to detecting a TCP FIN signal, aging the association between the flow of
packets and the traffic manager.

72. (Amended) The method of claim 69, wherein associating ~~the other~~ said another traffic manager with the flow of packets further comprises storing a connection key and an identifier associated with ~~the other~~ said another traffic manager.

73. (Amended) The method of claim 69, wherein associating ~~the other~~ said another traffic manager with the flow of packets further comprises:
receiving the flow of packets from ~~the other~~ said another traffic manager;
determining whether a signal is associated with the received flow of packets;
and
upon receiving a signal indicating a memorize instruction, storing the connection key and an association with ~~the other~~ said another traffic manager.

Claims 22-56 were cancelled.

Claims 1, 5, 8, 12, 15-17, 60, 62, 64, 67-69 and 72-73 were amended.

Allowable Claims/Cancelled Claims

2. Claims 1-21 and 57-73 are allowed.

Claims 22-56 were cancelled.

Conclusion

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Following prior arts are related to the present claimed invention: see Pto-892.

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to VINNCELAS LOUIS whose telephone number is (571)270-5138. The examiner can normally be reached on M-F from 7:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, AUNG S. MOE can be reached on (571)272-7314. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Aung S. Moe/

Supervisory Patent Examiner, Art Unit 2474

/V. L./

Examiner, Art Unit 2474

Wednesday, December 15, 2010

Application/Control Number: 10/659,011
Art Unit: 2474

Page 20